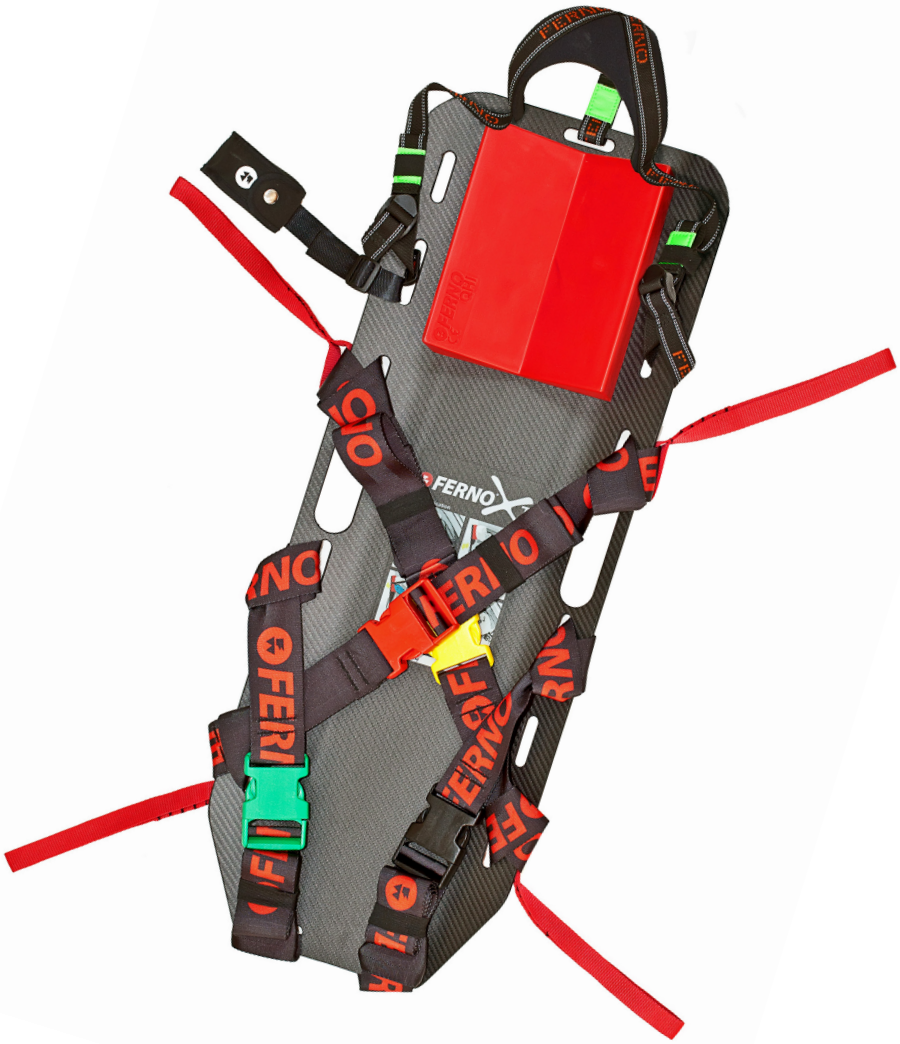
FERNO®
When It's Critical®

Users' manual



Device for craniocaudal immobilization and extrication XT

July 2013
Pub. No. MU-086-C

Read this Manual carefully and Keep it for Future Reference

Ferno Technical Support

Customer service and product support are important aspects of every Ferno product. Before contacting us, have the product serial number available and include it in all written communications. For technical support questions, contact Ferno Washington Italia s.r.l.:

Telephone (toll free)	800.501.711
Fax	0516861508
E-mail	info@ferno.it

Ferno Customer Relations

To request support or for additional information, contact Ferno Washington Italia s.r.l. Customer Service:

MANUFACTURER

Ferno Washington Italia s.r.l., Via Benedetto Zallone 26
40066 - Pieve di Cento (BO) - ITALIA

Telephone (toll free)	800.501.711
Telephone	0516860028
Fax	0516861508
Internet	www.ferno.it

USERS' MANUAL

To request additional free user manuals contact Ferno Washington Italia Customer Service.

Limitation of Liability

This manual contains general instructions for the use and care of this product. These instructions do not include all possible applications and operations. Correct and safe product use is the sole responsibility of the user. Safety information is included as a service to the user and only guarantees the minimum level necessary to avoid accidents involving operators and patients. Any other safety measure implemented by the user must take the applicable regulations into account. Operators must be trained before using this product. Keep the manual for future reference. Include the manual with the product in the event of transfer to a new user. Additional free copies are available upon request from Ferno Washington Italia Customer Service.

Proprietary Notice

The information disclosed in this manual is the property of Ferno Washington Italia s.r.l. - Via Benedetto Zallone 26, 40066 Pieve di Cento (BO). Ferno-Washington, Inc. reserves all patent rights, proprietary design rights, manufacturing rights, reproduction use rights, and sales use rights thereto, and to any article disclosed therein except to the extent those rights are expressly granted to others or where not applicable to vendor proprietary parts.

XT serial number _____
Location: Lower side of the main label.

The full or partial reproduction of this manual is prohibited if not specifically authorized by Ferno Washington Italia s.r.l.

Limited Warranty Statement

The products sold by Ferno are covered by a 24 month warranty against manufacturing defects. The complete version of the liability and warranty terms and conditions can be found in the *Warranty* section, page 21.

© Copyright Ferno Washington Italia s.r.l. All rights reserved.

TABLE OF CONTENTS

Section/Paragraph **Page**

Ferno Customer Relations 2
Ferno Technical Support 2
1 - Safety information 4
1.1 Warning 4
1.2 Important 4
1.3 Bloodborne disease notice 4
1.4 Load capacity 4
1.5 Accessory compatibility 4
1.6 Symbol Glossary 5
1.7 Information and safety labels 5
2 - operator skills and training 6
2.1 Skills 6
2.2 Training 6
3 - The extrication device 6
3.1 Description 6
3.2 CE Compliance 6
3.3 Components (Extrication Device) 7
3.4 General technical specifications 8
4 - Extrication device configuration 9
4.1 Strap configurations 9
4.2 Applying the QHI (Quick Head Immobilizer) 11
4.3 Applying the head immobilizer triangle 12
4.4 Applying the red neck strap 12
5 - Using the extrication device 13
5.1 Before placing the extrication device in service 13
5.2 General Guidelines for Use 13
5.3 Rapid Extrication 14
5.4 Precautionary extrication 15
5.5 Adapting for a pediatric patient 17
6 - Maintenance 18
6.1 Scheduled maintenance 18
6.2 Disinfection 18
6.3 Cleaning 18
6.4 Inspection 18
6.5 Storage 19

Section/Paragraph **Page**

7 - Accessories 20
7.1 XT extrication device accessories 20
8 - Technical support service 20
8.1 Customer Technical Support 20
9- Warranty 21
9.1 Warranty conditions 21
9.2 Limitation of liability 21
9.3 Warranty requests 22
9.4 Claims 22
9.5 Return authorization 22
Training record 23
Maintenance record 24

© Ferno Washington Italia MU-086-C July 2013

1 - SAFETY INFORMATION

Read this user manual carefully. It is an integral part of the device and must always be kept within reach. The following points must be observed for your own personal safety and for the safety of the patients:

– Inspect the device before each use to make sure there are no signs of wear, damage and/or malfunctions. Refer to the *Inspection* section, page 18.

– In order to prevent infections and/or bacterial contamination, follow directions contained in the *Disinfection* and *Cleaning* paragraphs, page 18.

1.1 Warning

The warning notices indicate potentially hazardous situations that, if underestimated, can cause accidents, damage and/or injuries.

⚠ WARNING

Untrained users could injure themselves and/or cause damage and/or injuries. Only permit trained personnel to use the XT extrication device.

Improper use of the extrication device can cause damage and/or injuries. Use the XT extrication device as described in this manual.

Unauthorized changes to the XT extrication device can cause serious damage, injuries and/or unforeseeable operative problems. Do not change or alter the extrication device in any manner.

Any damage to the extrication device components or to the entire system could alter its performance and its safety. Inspect the XT extrication device frequently and in particular before and after every use. Make sure that the extrication device cannot be used if there are signs of wear or damage.

An unattended patient can be injured. Never leave a patient bound to the extrication device unattended. Stay with the patient at all times during the rescue operations.

Incorrect use of the straps can cause the patient to fall and be injured. Always use the restraint straps for the patient as instructed in this manual.

Improper use of the extrication device can cause injury. Use the extrication device only as described in this manual.

Untrained assistants can cause damage and/or injuries or injure themselves. Do not let untrained assistants prepare the extrication device. Use caution when using the device and coordinating the helpers.

Improper maintenance can cause serious accidents and/or damage. Perform the maintenance as described in this user manual.

Attaching improper or unauthorized devices can cause accidents, damage and/or injuries. Only use devices that are approved and authorized by Ferno W. Italia.

⚠ WARNING

Unauthorized repairs performed by technicians not authorized by Ferno W. Italia will void any type of warranty and could make any operation with the extrication device dangerous.

Non-original spare parts and inadequate maintenance can cause damage and/or injuries. Use only original Ferno spare parts and contact the Ferno W. Italia service department.

1.2 Important

Important notices provide important information about the use and/or maintenance of the device.

Important

1.3 Bloodborne disease notice

To reduce the risk of exposure to infective bloodborne diseases, such as HIV-1 or hepatitis, carefully follow the disinfection and cleaning instructions contained in this manual.

1.4 Load capacity

Do not exceed the load capacity for the XT extrication device. Refer to the *General technical specifications* paragraph, page 8.

1.5 Accessory compatibility

Use only accessories that have been approved and authorized by Ferno. The XT extrication device can be used in combination with the following devices: QHI (Quick Head Immobilizer), head immobilizer triangle (code 038245211), red neck strap (code 25-0601-002) and restraint system (code 25-0500-001).

The XT extrication device has been tested with the following accessories:

– QHI Quick Head Immobilizer

– WizLoc cervical collar

– Head immobilizer triangle

Any other combination is not compatible with the specifications and the instructions provided in this manual.

Ferno Washington Italia shall not be liable for any damage to users or third parties caused by the improper use of the XT extrication device.

© Ferno Washington Italia MU-086-C July 2013

1.6 Symbol Glossary

The symbols defined below are used on the extrication device and/or in this manual.

Read the user manual carefully

The extrication device must be used by at least two trained operators

Load capacity

The product complies with the Standards of the European Union

Do Not Pressure Wash

QR code

1.7 Information and safety labels

The information and safety labels provide important information of which the user must be aware.

Read and follow the instructions on the labels. Immediately replace worn or damaged labels. Contact Ferno Washington Italy Customer Service to request new labels (page 2). The label shown below is applied on the extrication device.

Main label

2 - OPERATOR SKILLS AND TRAINING

2.1 Skills

Operators using the extrication device must:

- have a working knowledge of emergency patient handling procedures.
- have suitable skills to assist the patient.

2.2 Training

The users are required to:

- carefully read and understand all the information provided in this manual.
- follow a training program on the use of the extrication device.
- practice with the extrication device before using it in real situations with patients.
- record the training sessions. A sample training record sheet is shown on page 23.

⚠ WARNING

Untrained users could injure themselves and/or cause damage and/or injuries. Only permit trained and qualified personnel to use the XT extrication device.

Important

The operators must be able to ensure their own safety and the safety of patients while using the extrication device. They must be able to evaluate the number of assistants required to handle the patient according to the applicable regulations.

3 - THE EXTRICATION DEVICE

3.1 Description

The XT extrication device (referred to also as the "extrication device" in this manual) was developed for the craniocaudal immobilization and extrication of trauma and non-trauma patients.

A minimum of two trained and qualified operators are necessary for using the device. A third operator may be required according to local protocols, and additional help may be required when handling heavy patients.

The extrication device has a system of 4 adjustable straps in order to correctly immobilize the patient to the extrication device. The upper chest straps must be applied in a "criss-cross" configuration. The lower leg straps must be applied in a same-side configuration.

3.2 CE Compliance

MEDICAL DEVICE DIRECTIVE

Ferno products comply with the requirements of European Directive 93/42/EEC concerning medical devices.

The extrication device belongs to Class I. CE

EXTRICATION DEVICE FEATURES

- Upper chest straps, yellow and red (2)
- Lower leg straps, black and green (2)
- The chest straps (yellow and red) have integrated lifting and carrying handles (4)
- Strap fixing holes (15)
- Lateral ergonomic grip handles (2)
- QHI (Quick Head Immobilizer)
- Neoprene head immobilizer
- Red neoprene neck strap

SUPPLIED ACCESSORIES KIT XT COMPLETE-B

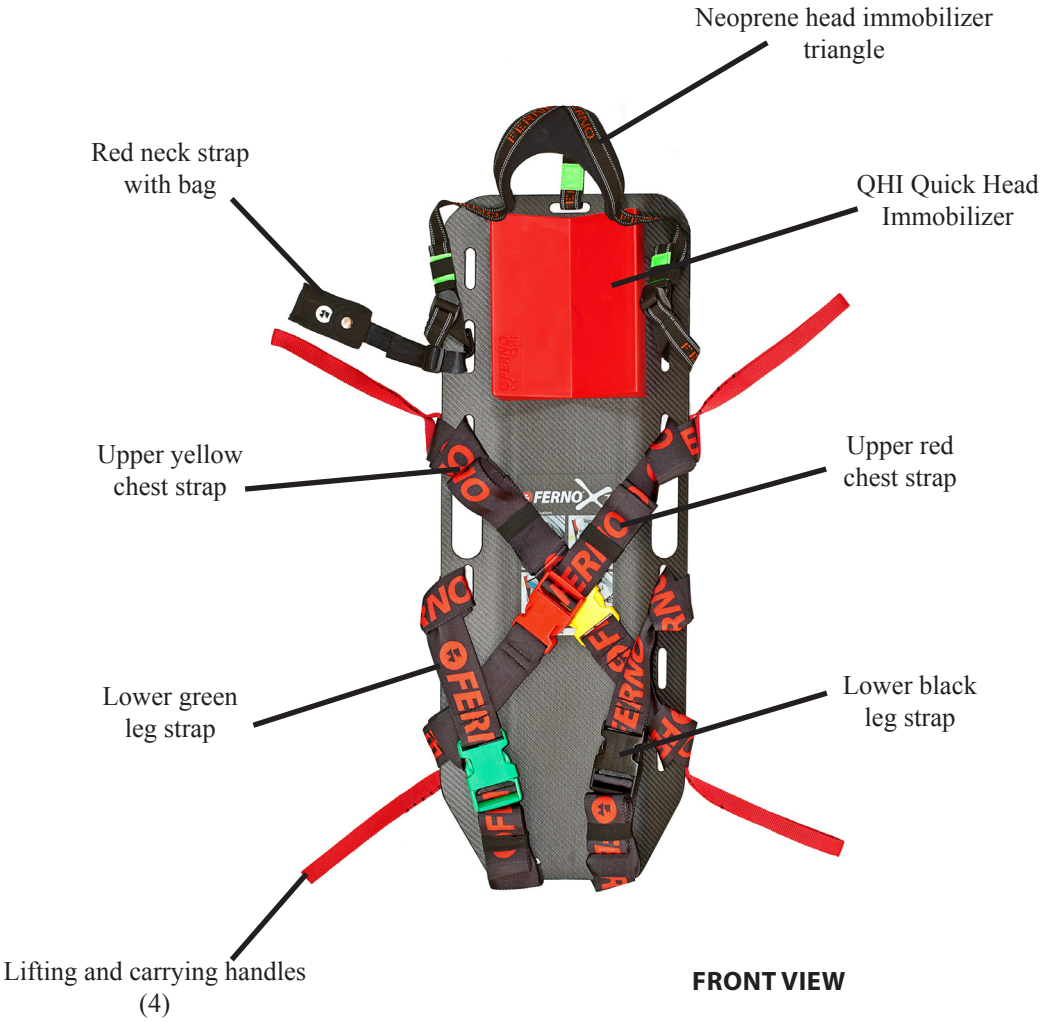
- QHI Quick Head Immobilizer (1 provided)
- Head immobilizer triangle (1 provided)
- Red neck strap (1 provided in a convenient bag)
- Straps (2 chest and 2 leg provided)
- Carrying and storage case (1 provided)
- User manual

⚠ WARNING

Improper use of the extrication device can cause damage and/or injuries. Use the extrication device as described in this manual.

© Ferno Washington Italia MU-086-C July 2013

3.3 Components (Extrication Device)


Neoprene head immobilizer triangle
Red neck strap with bag
QHI Quick Head Immobilizer
Upper yellow chest strap
Upper red chest strap
Lower green leg strap
Lower black leg strap
Lifting and carrying handles (4)

FRONT VIEW

USERS' MANUAL

Contact Ferno Washington Italia Customer Service (page 2) to request additional free copies of the user manual.

3.4 General technical specifications

Ferno reserves the right to change the specifications without notice. For additional information, contact Ferno Customer Service (page 2).

Material	
XT board	composite
QHI head immobilizer	polyurethane
Straps	nylon
Buckles	plastic
Head immobilizer triangle and neck strap	neoprene
Length	830 mm
Width	300 mm
Thickness	6 mm
Weight	2 kg
Load capacity	160 kg
Maximum load per handle	40 kg

Load capacity

Never exceed the XT extrication device's load capacity. Inspect the extrication device if the load capacity has been exceeded (see the *Inspection* paragraph, page 18).

⚠ WARNING

Untrained users could injure themselves and/or cause damage and/or injuries. Only permit trained and qualified personnel to use the XT extrication device.

⚠ WARNING

Never lift the patient from the support surface using the extrication device board only. Move the patient by transferring his/her weight between different surfaces.

⚠ WARNING

Never exceed the extrication device's load capacity specified in this manual.

© Ferno Washington Italia MU-086-C July 2013

4 - EXTRICATION DEVICE CONFIGURATION

4.1 Strap configurations

The XT extrication device has two upper chest straps (yellow and red) and two lower leg straps (black and green).

The upper chest straps are in "criss-cross" configuration and the leg straps are in a same-side configuration. Each strap has two pieces: the male half and the female half. The male half must be connected to the female half. Always make sure to have correctly connected the two halves.The upper chest straps are equipped with integrated red lifting and carrying handles.

Apply the straps before using the XT extrication device. For the application of the straps and identification of the correct hole on the extrication device, refer to Figure 1. The numbering in Figure 1 is in a clockwise direction from 1 to 15.

Refer to Figure 1 for information on applying the straps and identifying the correct hole on the extrication device.

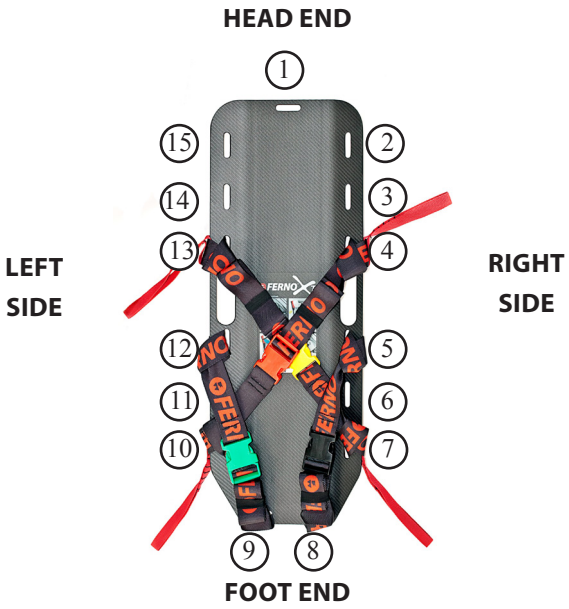


Figure 1 - Strap configuration (operator view)

"CRISS-CROSS" CONFIGURATION FOR THE CHEST STRAPS

YELLOW CHEST STRAP

Proceed as follows for the application of the yellow chest strap:

1. Insert the male ended slotted strap into hole no. 13 on the left side of the extrication device with the stitching facing the operator (upwards) (Figure 2A).

2. Pull the strap inside and make a knot, inserting the yellow buckle into the strap slot (Figure 2B).

3. Tighten the strap securely around the hole (Figure 2B).

4. Position the red lifting and carrying handle towards the outside so it can always be accessed by the operator (Figure 2B).

5. Insert the female ended slotted strap into hole no. 7 on the right side of the extrication device with the stitching facing the operator (upwards) (Figure 2C).

6. Pull the strap inside and make a knot, inserting the yellow buckle into the strap slot.

7. Tighten the strap securely around the hole (Figure 2C).

8. Position the red lifting and carrying handle towards the outside so it can always be accessed by the operator (Figure 2C).

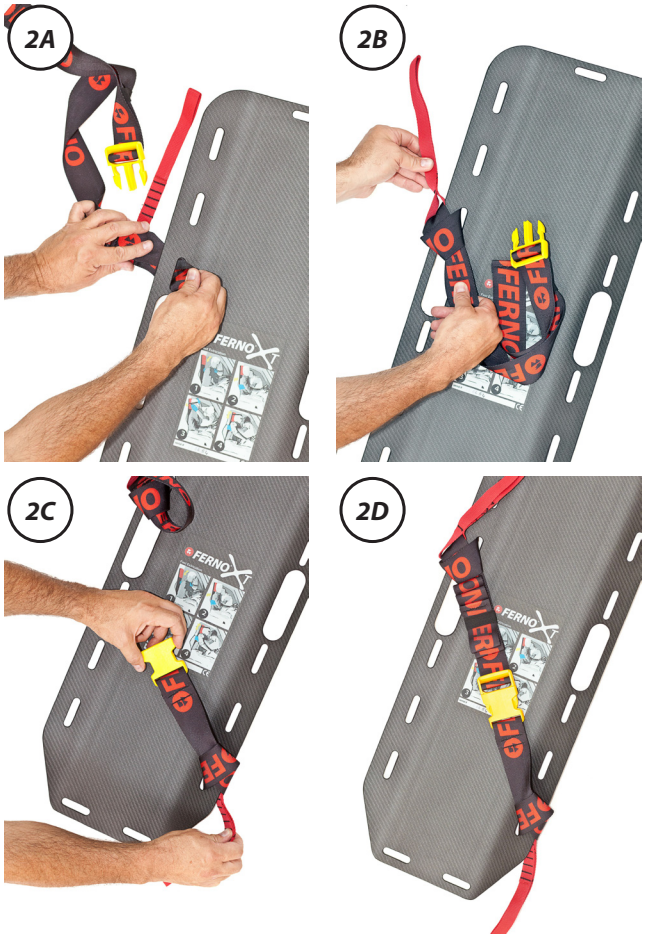


Figure 2 - Applying the yellow chest strap
Inset 2D - Yellow strap applied and secured

© Ferno Washington Italia MU-086-C July 2013

RED CHEST STRAP

Proceed as follows for the application of the red chest strap:

1. Insert the male ended slotted strap into hole no. 4 on the right side of the extrication device with the stitching facing the operator (upwards).
2. Pull the strap inside and make a knot, inserting the red buckle into the strap slot.
3. Tighten the strap securely around the hole.
4. Position the red lifting and carrying handle towards the outside so it can always be accessed by the operator.
5. Insert the female ended slotted strap into hole no. 10 on the left side of the extrication device with the stitching facing the operator (upwards).
6. Pull the strap inside and make a knot, inserting the red buckle into the strap slot.
7. Tighten the strap securely around the hole.
8. Position the red lifting and carrying handle towards the outside so it can always be accessed by the operator.

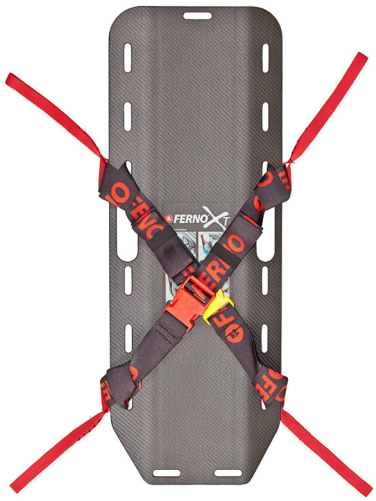


Figure 3 - Chest straps in "criss-cross" configuration

SAME-SIDE CONFIGURATION FOR THE LEG STRAPS

BLACK LEG STRAP

Proceed as follows for the application of the black leg strap:

1. Insert the female ended slotted strap into hole no. 5 on the right side of the extrication device with the stitching facing the operator (upwards) (Figure 4A).
2. Pull the strap inside and make a knot, inserting the black buckle into the strap slot.
3. Tighten the strap securely around the hole.
4. Insert the male ended slotted strap into hole no. 8 on the foot end of the extrication device with the stitching facing the operator (upwards) (Figure 4B).
5. Pull the strap inside and make a knot, inserting the black buckle into the strap slot (Figure 4C).
6. Tighten the strap securely around the hole.

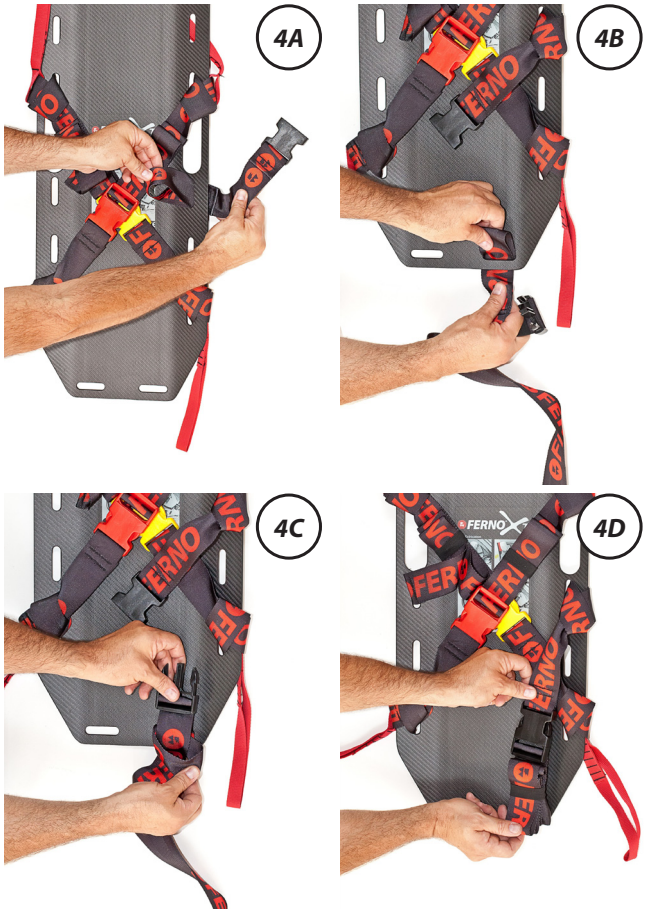


Figure 4 - Applying the black leg strap
Inset 4D - Black strap applied and secured

© Ferno Washington Italia MU-086-C July 2013

GREEN LEG STRAP

Proceed as follows for the application of the green leg strap:

1. Insert the female ended slotted strap into hole no. 12 on the left side of the extrication device with the stitching facing the operator (upwards) (Figure 5A).

2. Pull the strap inside and make a knot, inserting the green buckle into the strap slot.

3. Tighten the strap securely around the hole (Figure 5B).

4. Insert the male ended slotted strap into hole no. 9 the foot end of the extrication device with the stitching facing the operator (upwards) (Figure 5C).

5. Pull the strap inside and make a knot, inserting the green buckle into the strap slot.

6. Tighten the strap securely around the hole.

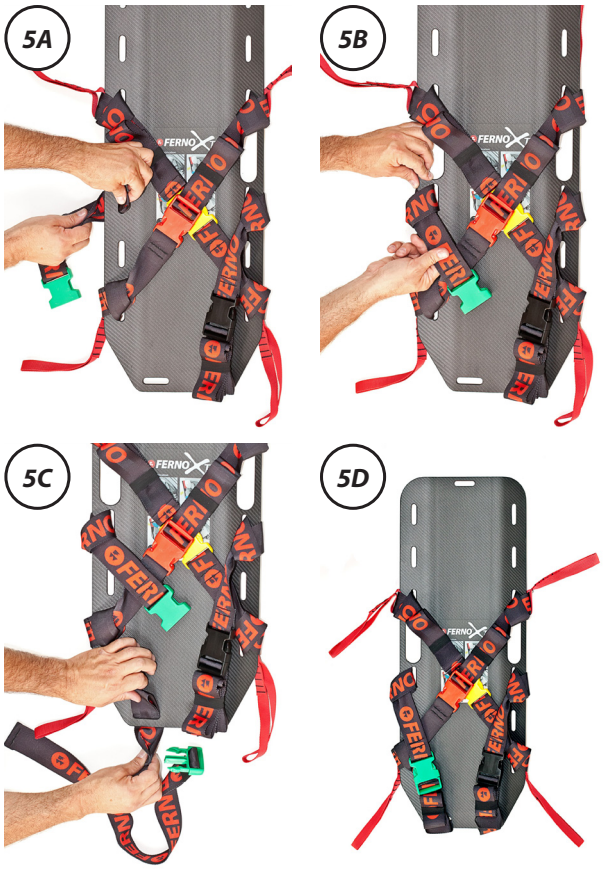


Figure 5 - Applying the green leg strap
Inset 5D - Green strap applied and secured

4.2 Applying the QHI (*Quick Head Immobilizer*)

Apply the QHI quick head immobilizer before using the XT extrication device.

1. Before its application, make sure that the extrication device is positioned on a flat surface. Also make sure that the surface of the extrication device onto which the QHI quick head immobilizer will be applied is clean and dry.

2. Peel the adhesive strip located under the QHI, making sure to leave the black part attached to the QHI (Figure 6A).

3. Center the QHI (Figure 6B) in the upper area of the extrication device near hole no. 1 on the head end, (see Figure 1 page 9 for hole no. 1 location).

4. Press down on the QHI so that the adhesive adheres perfectly to the surface (Figure 6C).

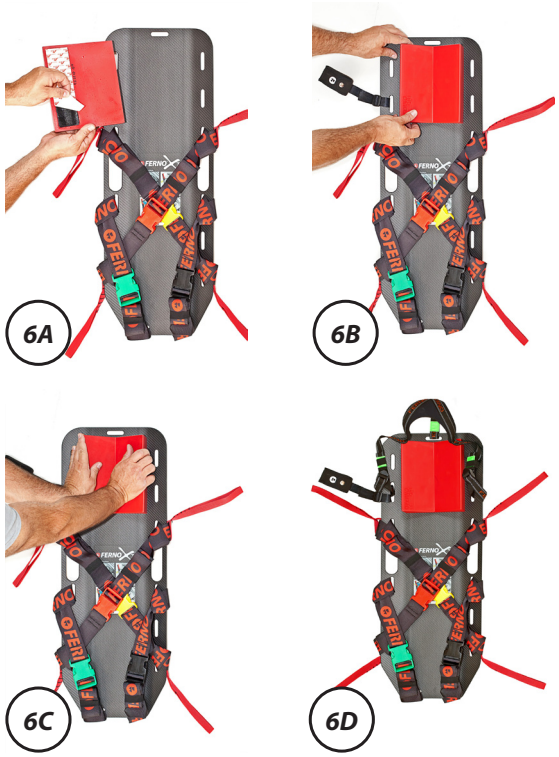


Figure 6 - Applying the QHI Quick Head Immobilizer
Inset 6D - Correctly applied QHI

4.3 Applying the head immobilizer triangle

Follow the instructions provided below for the correct application of the head immobilizer triangle. Starting from the top (head end):

1. Insert the strap (Figure 7A) in the upper hole on the head end from inside the extrication device.

2. Insert the strap through the first slot in the locking buckle (Figure 7B).

3. Insert it in the second slot (Figure 7C) and pull it in order to secure the strap in the buckle (Figure 7D).

2. Repeat the same operations with the remaining two straps in the two side holes no. 3 and 14 (see Figure 1 on page 9 for holes no. 3 and 14 location).

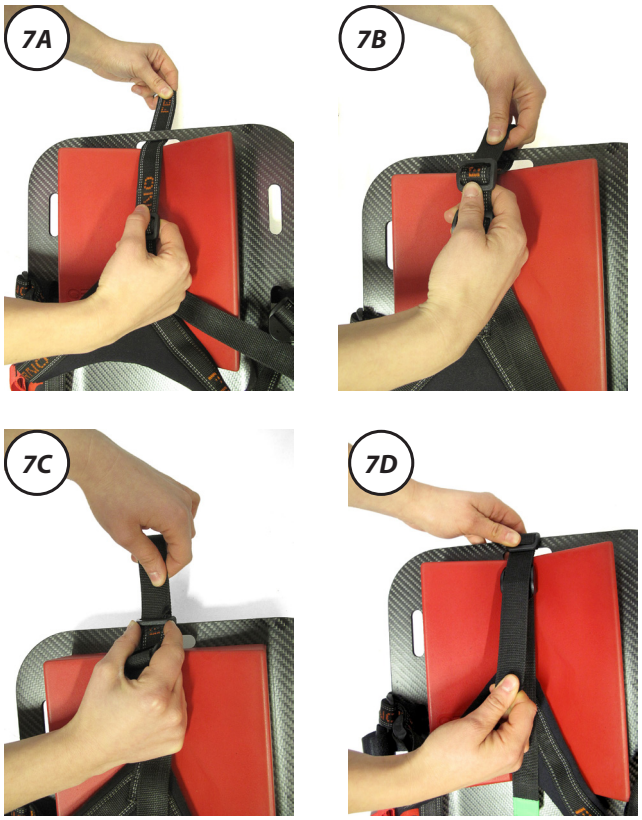


Figure 7 - Applying the head immobilizer triangle

4.4 Applying the red neck strap

The red neoprene neck strap, which is stored in its bag, can be attached to the extrication device in side hole no. 14 (see Figure 1 page 9 for hole no. 14 location).

1. Remove the neck strap from its bag attached to the extrication device (Figure 8B).

2. Insert the opposite end of the strap in hole 3 on the right side (see Figure 1 page 9 for hole no. 3 location).

3. Overlap and connect the two Velcro parts to ensure a perfect fit (Figure 8D).

When the strap is not in use, put it back into its bag.

Figure 8 - Applying the red neoprene strap

© Ferno Washington Italia MU-086-C July 2013

5 - USING THE EXTRICATION DEVICE

5.1 Before placing the extrication device in service

Personnel that will use the extrication device must first carefully read and understand the information contained in this manual.

- Before using the extrication device, check that the following elements have been applied and are ready to use: the QHI quick head immobilizer, the head immobilizer triangle and the red neck strap. Also check that the straps have been correctly applied, respecting the number (two upper chest straps and two lower leg straps).
- Make sure that the extrication device is free of any signs of damage or wear and works properly. Refer to the *Inspection* paragraph, page 18.

⚠ WARNING

Improper use of the extrication device can cause damage and/or injuries. Use the extrication device as described in this manual.

⚠ WARNING

Never leave a patient bound to the extrication device unattended. Stay with the patient at all times during the rescue operations.

Read the user manual carefully

Two trained operators

Load capacity

5.2 General Guidelines for Use

- This manual does not provide any medical advice.
- The users are responsible for ensuring correct and safe practices for the patient and themselves.
- This manual illustrates use of the extrication device in an ideal setting and should be considered as a guideline only.
- The use of the extrication device requires a minimum of two trained operators.
- **The operators must work together and coordinate with each other during all operations.**
- Follow the procedures according to the standard patient emergency handling protocols.
- The operators must communicate with each other and coordinate while using the extrication device.
- Ferno recommends the presence of a third trained person to help out when using the extrication device, if necessary.
- Only lift a weight that can be safely supported. Have an additional person help when working with heavy loads.
- The extrication device can be adapted to many circumstances and different scenarios. It is the responsibility of trained emergency service personnel to evaluate the patient's conditions and determine the most suitable equipment and procedures.
- In any case, always follow the local health protocols and instructions.
- Stay with the patient at all times when using the extrication device.

⚠ WARNING

Attaching improper or unauthorized devices can cause accidents, damage and/or injuries. Only use devices that are approved and authorized by Ferno W. Italia.

Important

Always store the extrication device in a dry place and inside its carrying case.

5.3 Rapid Extrication

During rapid extrication operations, one operator should be assigned to manually hold the patient's head and neck while the other one should be assigned to applying the extrication device and to the extrication operation.

During rapid extrication, it is recommended to position the chest and leg straps at the sides so they do not interfere with the positioning of the patient (Figure 9).

The head immobilizer triangle must be positioned correctly, ready to be used, using the upper hole (head end) and the two side holes (the second holes starting from the head end). For the application of the head immobilizer triangle, refer to the *Applying the head immobilizer triangle* paragraph, page 12.

Figure 9 - Straps positioned at the sides

The presence of two trained operators is recommended for the rapid extrication procedure:

1. **Operator 1:** moves the patient forward, holding the patient's head and neck in order to guarantee the space necessary behind the patient to position the extrication device (Figure 10A).
2. **Operator 2:** inserts the extrication device behind the patient so it is correctly centered (Figure 10B).
3. **Operator 1:** repositions the patient on the extrication device (Figure 10B).
4. **Operator 2:** while operator 1 is ensuring the patient's cervical spine alignment, operator 2 applies the head immobilizer triangle, carefully positioning it just above the patient's eyebrows (Figure 10C). The correct application of the head immobilizer triangle reduces the risk of the head immobilizer slipping upwards or downwards on the forehead.
5. **Operator 2:** before extricating the patient, the second operator grasps the two upper red lifting and carrying handles, making sure that they first pass under the patient's armpits (Figure 10D).
6. **Operator 2:** proceeds with patient extrication.
7. **Both operators:** remove the patient from the setting.

Figure 10 - Sequence Rapid Extrication

© Ferno Washington Italia MU-086-C July 2013

5.4 Precautionary extrication

The precautionary extrication procedure requires the presence of two trained operators. They must be able to evaluate the patient's conditions and be trained on proper positioning and use of the extrication device.

It is recommended to have two trained operators for the precautionary extrication device procedure:

1. **Operator 1:** ensures the cervical spine alignment, making it easier for operator 2 to apply the cervical collar (Figure 11).
2. **Operator 2:** correctly applies the cervical collar (Figure 12).

Figure 11 - Supporting the cervical spine

Figure 12 - Applied cervical collar

3. **Operator 1:** moves the patient forward, holding the patient's head and neck in order to guarantee the space necessary behind the patient so operator 2 can position the extrication device (Figure 13).
4. **Operator 2:** inserts the extrication device behind the patient so it is correctly centered, making sure that the chest straps, the leg straps and the lifting and carrying straps are positioned at the sides and are ready to be used.
5. **Operator 1:** repositions the patient on the extrication device (Figure 14).

Figure 13 - Inserting the extrication device

Figure 14 - Patient positioning

6. **Operator 2:** while operator 1 is ensuring the patient's cervical spine alignment, operator 2 applies the head immobilizer triangle, carefully positioning it just above the patient's eyebrows (Figure 15). The correct application of the head immobilizer triangle reduces the risk of the head immobilizer slipping upwards or downwards on the forehead.
7. **Both operators:** position the chest straps (yellow and red) in a "criss-cross" configuration (Figure 16) and attach the upper part of the strap to the lower part using the buckles. Adjust the strap tension if necessary. In this phase, the operators make sure that the red lifting and carrying straps are free above the patient's shoulders so they can be easily accessed and grasped by the operators during the final extrication phase.

Figure 15 - Positioned head immobilizer triangle

Figure 16 - Applying the chest straps (yellow and red)

8. **Both operators:** position the leg straps (black and green) making sure to pass them under the patient's legs, each on the same side; attach the lower part of the strap to the upper part using the buckles (Figure 17) and adjust the tension so the patient is secured to the extrication device. Adjust the straps to avoid compressing/constricting the patient.
9. **Operator 1:** once all restraint straps have been applied and attached, operator 1 releases the red neck strap from the bag and, adjusting its length, passes the opposite end to operator 2 (Figure 18).

Figure 17- Green strap secured

Figure 18 - Final blocking of the cervical spine

© Ferno Washington Italia MU-086-C July 2013

10. **Operator 2:** inserts the opposite end of the red strap in the specific hole on the extrication device (opposite side). Fasten the strap using the Velcro closure and adjust it in order to complete the cervical spine stabilization procedure (Figure 19).
11. Before extricating the patient **both operators** make sure that all restraints have been correctly applied and adjusted.
12. **Both operators:** working together, they identify the best exit path and the correct procedures that are safe for themselves and for the patient based on the specific situation. Using the red lifting and carrying handles, they proceed with the extrication (Figure 20).

Figure 19 - Final blocking of the cervical spine

Figure 20 - Extricating using the carrying handle
Inset: Grasping the carrying handles

13. **Both operators:** complete the extrication procedure by positioning the patient properly on a selected/dedicated device – a long spine board or SCOOPEXL stretcher (Figure 21).
14. **Both operators:** Secure the patient on the long spine board/SCOOPEXL stretcher using the relevant restraints.
15. **Both operators:** Secure the long spine board/SCOOPEXL stretcher to the cot with the relevant restraints to prepare the patient for safe ambulance transport.

Figure 21 - Positioning on the long spine board

5.5 Adapting for a pediatric patient

If necessary, the extrication device can be adjusted for use for a child, using it together with a decompression device. Ferno recommends to train personnel for correct use of the extrication device in these conditions.

Always follow medical director's instructions to adapt the XT extrication device to special situations and circumstances.

6 - MAINTENANCE

6.1 Scheduled maintenance

The extrication device requires regular maintenance. It is recommended to set up and follow a maintenance schedule. The chart to the right shows the minimum maintenance intervals.

Keep track of the maintenance operations. An example of a maintenance operations list is provided on page 24.

Maintenance intervals	Each use	When necessary	Every month
Disinfection (page 18)	•	•	
Cleaning (page 18)		•	
Inspection (page 18)	•	•	•

6.2 Disinfection

XT extrication device: Disinfect the extrication device using a neutral disinfectant for non-abrasive surfaces. Dry with a cloth.

Chest and leg straps: Remove the straps from the extrication device. Soak the straps for one hour in water (max. 90°C) with disinfectant, then rinse them carefully. Allow to air-dry in a dry place.

QHI Head immobilizer: Remove the head immobilizer from the extrication device. Soak the head immobilizer for one hour in water (max. 20°C) with neutral non-abrasive disinfectant, then rinse it carefully. Allow to air-dry in a dry place. After the disinfection, if necessary, replace the Velcro fasteners before applying the head immobilizer on the extrication device.

While disinfecting, we recommend wearing suitable gloves (e.g. disposable gloves or house-hold gloves).

6.3 Cleaning

Wash the extrication device with warm water (max. 30°C) and a mild, non-abrasive neutral detergent. Rinse with clean water. Dry with a cloth.

Do not wash it with pressurized water.

While cleaning, we recommend wearing suitable gloves (e.g. disposable gloves or house-hold gloves).

6.4 Inspection

Keep all the components in good conditions and free of dirt, residues and body fluids to guarantee optimal use of the extrication device. The extrication device must be inspected and cleaned after each use. If not used, it must be stored indoors in a dry place and be inspected at least once a month.

Have the extrication device inspected regularly by maintenance personnel. Follow the check list provided on page 19.

If signs of wear or damage are found during the inspection, remove the extrication device from service and contact immediately Ferno's Technical Support Service for repairs/ maintenance. See the *Technical support* paragraph, page 20.

⚠ WARNING

Improper maintenance can cause serious accidents and/or damage. Perform the maintenance as described in this user manual.

Important

Store the XT extrication device indoors in a dry place protected against direct sunlight. Long exposure to direct sunlight can degrade the extrication device and its accessories material.

Important

After disinfection/cleaning, ensure the XT extrication device and its accessories are thoroughly and perfectly dry before storing them in the carrying case.

Important

DO NOT PRESSURE WASH

Do not use pressurized water to clean the extrication device.

Important

The use of abrasive detergents could damage the extrication device. Do not use abrasive materials to clean the extrication device.

© Ferno Washington Italia MU-086-C July 2013

EXTRICATION DEVICE INSPECTION CHECK LIST

- Are all components present?
- Does extrication device show signs of damage and/ or wear?
- Are the chest and leg straps, QHI quick head immobilizer, head immobilizer triangle and neck strap present?
- Are the accessories properly installed?
- Are the straps properly installed?
- Are the straps in a good condition and free of cuts or worn edges?
- Are the strap buckles free from visible damage and do they work properly?
- Is the neck strap installed properly on the extrication device?
- Is the neck strap in a good condition without cuts or worn edges?
- Is the triangle properly installed on the extrication device?
- Is the triangle in a good condition without cuts or worn edges?
- Is the QHI quick head immobilizer firmly fastened to the extrication device?
- Does the QHI quick head immobilizer show visible signs of damage, wear or does it appear to be detaching from the extrication device?
- Are there visible signs of damage on the extrication device or on the accessories?

6.5 Storage

The extrication device must be stored cleaned indoors in a dry place, away from direct sunlight and inside its carrying case (Figure 22).

It is recommended to leave the extrication device in the case in a " ready to use" configuration (Figure 9, page 14):

1. The chest and leg straps must be positioned at the sides in order to keep the middle space free for the patient.

2. The head immobilizer triangle and the neck strap must be properly installed on the extrication device so they can be immediately accessed by the operator. In particular, the strap must be placed in the supplied bag so it can be quickly released if necessary.

3. The QHI quick head immobilizer must be properly installed on the extrication device.

Figure 22- XT carrying case

7 - ACCESSORIES

Ferno offers multiple accessories approved for use with the XT extrication device. Always follow the instructions provided in this user manual.

For more information about the products, contact Ferno Customer Service (page 2).

⚠ WARNING

Attaching improper or unauthorized devices can cause accidents, damage and/or injuries. Only use devices that are approved and authorized by Ferno W. Italia.

7.1 XT extrication device accessories

Description	Code
Red head immobilizer with triangle and neck strap (w/black bag)	QHI-B
Carrying case for the XT extrication device	10-1605-001
Set of 4 black straps (plastic buckle)	25-0500-001
Neoprene neck strap (w/black bag)	25-0601-002
Neoprene head immobilizer triangle	038245211

8 - TECHNICAL SUPPORT SERVICE

8.1 Customer Technical Support

Contact Ferno Washington Italia Technical Service for technical support.

Toll-free number	800.501.711
Telephone	0516860028
Fax	0516861508
E-mail	info@ferno.it
Internet	www.ferno.it

Please refer to Ferno Washington Italia Customer Service for any further information and training on correct use of the XT extrication device.

⚠ WARNING

Non-original spare parts and inadequate maintenance can cause damage and/or injuries. Use only original Ferno spare parts and contact Ferno W. Italia service department.

⚠ WARNING

Unauthorized changes to the XT extrication device can cause serious damage, injuries and/or unforeseeable operative problems. Do not change or alter the XT extrication device in any manner.

© Ferno Washington Italia MU-086-C July 2013

9- WARRANTY

9.1 Warranty conditions

Ferno products are guaranteed to be free of manufacturing defects for a 24 month period, starting from the date indicated on the Ferno W. Italia s.r.l. waybill.

Ferno Washington Italia provides a 12 month warranty period for spare parts.

During the warranty period, attempts will be made to repair and/or replace free of charge all parts that are recognized to be defective, with the exclusion of labor costs or travel, transport and packaging charges.

The warranty does not cover the consumables or components subject to wear associated with normal product use, all parts typically subjected to grazing or turning friction (cushions, brushes, lubricants, tracks, belts, etc.), parts potentially subject to oxidation or corrosion (copper or metal alloy contacts, electrical, electronic or mechanical equipment) or batteries.

Exterior finishes (gelcoat/resin, paint, powder paint, decals, ribbons, writing, etc.) are guaranteed for 90 days.

Repairs are carried out by specialized technicians at Ferno Washington Italia s.r.l. located in Via Zallone 26- 40066 Pieve di Cento (BO) or at the customer site upon previous agreement with Ferno Washington Italia Customer Service.

Technical work performed at the Customer site must be agreed upon and require a partial refunding of the expenses that are sustained and documented upon request. For information related to technical operations, contact the responsible department at Ferno W. Italia s.r.l.

Repairs are guaranteed for 6 months starting from the date of execution. This warranty applies only to products used in compliance with the user manual provided. Warranty void in case of improper or negligent use.

The warranty period starts from the day on which the product is shipped by Ferno W. Italia s.r.l. and the shipping costs are not covered by this warranty. Ferno W. Italia s.r.l. shall not be liable for damage occurred during shipping or caused by improper use of the product.

Products that do not bear the Ferno logo, sold by Ferno W. Italia s.r.l., are covered by the same original warranties of the manufacturer. Ferno W. Italia s.r.l. does not offer warranty extensions beyond the warranty period; Ferno W. Italia s.r.l. shall not be liable for products produced by other manufacturers.

The warranty shall no longer apply in the following cases:

– failure to follow the user instructions,

– incorrect use,

– improper use or handling,

– repair work performed by unauthorized personnel,

– shipping damage due to improper packaging if reshipped by the user,

– lack of maintenance,

– failure to use original spare parts.

In the above mentioned cases, Ferno W. Italia shall not cover the shipping costs for sending and returning the product.

9.2 Limitation of liability

If a product is recognized as defective, Ferno W. Italia s.r.l. will repair and replace it, or, at its own discretion, refund the purchase price. In no case shall Ferno W. Italia s.r.l. be liable for more than the selling price of the product. The purchaser accepts these conditions for all types of damage. Ferno W. Italia s.r.l. does not provide other warranties, expressed or implied, concerning the merchantability or fitness for any particular purpose for its own product or for the products

of third parties. Any legal claim must be registered within one year from the date in which the violation was or has supposedly been discovered, otherwise the limited warranty shall be void. Ferno W. Italia s.r.l. reserves the right to cancel the warranty for the products sold:

- in the case the labels or plates bearing the Manufacturer logo and the serial number have been deleted or removed;

- in the case changes, repairs or work unauthorized by Ferno W. Italia s.r.l. have been performed on the product or carried out by personnel not authorized by Ferno W. Italia;

- if the product has not been used in compliance with the instructions provided or for purposes other than those for which it was designed.

- according to what is indicated in paragraph 9.1 “Warranty conditions”.

In no case shall Ferno W. Italia s.r.l. be liable for direct or indirect damage caused by improper or unauthorized use. Correct use is described in the user manual of the product.

9.3 Warranty requests

Immediately contact Ferno Customer Service if you receive a product that appears defective. A representative will help the customer with the claims procedure. Request authorization from Ferno Customer Service before sending a product to Ferno W. Italia s.r.l.

9.4 Claims

Any claims must be communicated to the seller or the Ferno W. Italia s.r.l. Customer Service within 5 days after product reception or discovering the defect.

Claims or disputes concerning a single product do not exempt the purchaser from the obligation to collect and pay for the other products included in the same order, unless otherwise agreed upon with the seller.

9.5 Return authorization

No product return will be accepted if not previously approved by Ferno W. Italia s.r.l.

Products returned for commercial reasons or for reasons unrelated to product compliance defects will be accepted only after they have been approved by specialized personnel at Ferno W. Italia s.r.l.

© Ferno Washington Italia MU-086-C July 2013

TRAINING RECORD		
Date	**Instructor name**	**Training method**

MAINTENANCE RECORD		
Date	**Maintenance performed**	**By**

© Ferno Washington Italia MU-086-C July 2013

The users' manual is necessary to ensure safe, proper and reliable operations of the product and to comply with warranty conditions.

July 2013
Pub. No. MU-086-C

Ferno Washington Italia s.r.l.
Via Benedetto Zallone, 26
40066 - Pieve di Cento (BO) - ITALIA

Telephone (toll free)	800.501.711
Telephone	0516860028
Fax	0516861508
E-mail	info@ferno.it
Internet	www.ferno.it